ASSESSMENT OF QUALITY OF LIFE IN STUDENTS WITH CONNECTIVE TISSUE DYSPLASIA

Abstract. Connective tissue dysplasia (CTD) is a group of hereditary disorders affecting the structural components of connective tissues, potentially influencing various bodily functions. This study aimed to assess the quality of life (QoL) in students diagnosed with connective tissue dysplasia, utilizing the widely recognized SF-36 questionnaire. The research comprised two groups: Group 1 consisted of individuals without any manifestations of CTD, while Group 2 included...
students with anamnestic and/or clinical evidence of dysplasia. The SF-36 questionnaire was employed to measure health-related QoL across different domains, including Physical Functioning (PF), Role Physical (RP), Bodily Pain (BP), General Health (GH), Vitality (VT), Social Functioning (SF), Role Emotional (RE), Mental Health (MH), Physical Component Health (PH), and Mental Component Health (MH). The results revealed statistically significant differences between the two groups in most SF-36 components (p < 0.05), indicating distinct QoL experiences. Group 1, devoid of connective tissue dysplasia manifestations, consistently reported superior QoL scores across physical and mental health dimensions. Notably, individuals without dysplasia displayed better physical functioning, experienced less bodily pain, and perceived higher levels of vitality, general health, and social functioning. However, both groups exhibited comparable scores in emotional well-being (RE) and mental health (MH), emphasizing potential areas of similarity in psychological aspects. The study underscores the importance of recognizing and addressing the impact of connective tissue dysplasia on students' quality of life, providing insights for targeted interventions and support. Further research is warranted to explore nuanced factors contributing to the observed differences and to develop tailored strategies for enhancing QoL in individuals with connective tissue dysplasia.

Keywords: SF-36, dysplasia, quality of life, connective tissue, physical health component, mental health component.
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ОЦІНКА ЯКОСТІ ЖИТТЯ У СТУДЕНТІВ ІЗ ДИСПЛАЗІЄЮ СПОЛУЧНОЇ ТКАНИНИ

Анотація. Дисплазія сполучної тканини (ДСТ) - це група спадкових захворювань, що вражають структурні компоненти сполучної тканини, потенційно впливаючи на різні функції організму. Метою цього дослідження було оцінити якість життя (ЯЖ) у студентів з діагнозом дисплазія сполучної тканини, використовуючи широко визнаний опитувальник SF-36. У дослідженні брали участь дві групи: Група 1 складалася з осіб без будь-яких проявів ДСТ, тоді як до групи 2 увійшли студенти з анамнестичними та/або клінічними ознаками дисплазії. Опитувальник SF-36 використовувався для вимірювання ЯЖ, пов'язаної з здоров'ям, у різних сферах, включаючи фізичне функціонування (PF), рольове фізичне функціонування (RP), тілесний біль (BP), загальне здоров'я (GH), життєвий тонус (VT), соціальне функціонування (SF), рольове емоційне функціонування (RE), психічне здоров'я (MH), фізичний компонент здоров'я (PH) та психічний компонент здоров'я (MH). Результати виявили статистично значущі відмінності між двома групами за більшістю компонентів SF-36 (р < 0,05), що свідчить про різний досвід ЯЖ. Група 1, яка не мала проявів дисплазії сполучної тканини, постійно повідомляла про вищі показники ЯЖ за всіма компонентами фізичного та психічного здоров'я. Зокрема, особи без дисплазії демонстровали краще фізичне функціонування, відчували менше болю в тілі та сприймали вищий рівень життєздатності, загального стану здоров'я та соціального функціонування. Однак обидві групи продемонстрували порівнянні показники емоційного благополуччя (RE) та психічного здоров'я (MH), що підкреслює потенційні сфери схожості в психологічних аспектах. Дослідження підкреслює...
 важливість визнання та усунення впливу дисплазії сполучної тканини на якість життя студентів, надаючи інформацію для цілеспрямованих втручань та підтримки. Подальші дослідження необхідні для вивчення нюансів, що сприяють виявленням відмінностям, та розробки індивідуальних стратегій для покращення якості життя в осіб з дисплазією сполучної тканини.

Ключові слова: SF-36, дисплазія, якість життя, сполучна тканина, фізичний компонент здоров’я, психічний компонент здоров’я

Statement of the problem. Undifferentiated Connective Tissue Dysplasia (UCTD) poses a unique set of challenges for individuals grappling with its diverse array of symptoms related to connective tissue abnormalities [1, 2]. As a condition that falls within the spectrum of connective tissue disorders, UCTD presents a nuanced clinical picture, lacking the clear diagnostic criteria associated with more defined rheumatic conditions. The elusive nature of UCTD makes it particularly intriguing to investigate, especially concerning its impact on the quality of life among students [3].

Connective tissue, vital for maintaining the structural integrity of various bodily components, is subject to aberrations in UCTD. This condition encompasses a spectrum of symptoms, ranging from joint pain and muscle weakness to skin manifestations and systemic complications affecting internal organs. The immune system's misguided attacks on healthy tissues contribute to inflammation, creating a complex clinical landscape. While UCTD shares characteristics with more well-defined rheumatic disorders, its diagnostic challenges lie in the heterogeneity of symptoms across affected individuals. Some may experience intermittent and mild manifestations, while others grapple with persistent and more severe issues. Diagnosis typically involves a comprehensive evaluation, including clinical symptoms, laboratory assessments, and a thorough medical history. One of the challenges in diagnosing UCTD is the variability in symptoms among individuals. Some people may have mild and intermittent symptoms, while others may experience more persistent and severe issues. Diagnosis is typically made by considering a combination of clinical symptoms, laboratory tests, and medical history [4, 5].

Management of UCTD often involves addressing specific symptoms and complications. Medications such as anti-inflammatory drugs, corticosteroids, and disease-modifying antirheumatic drugs (DMARDs) may be prescribed to manage inflammation and improve symptoms. Additionally, lifestyle modifications and physical therapy may be recommended to enhance overall well-being. It's essential for individuals with UCTD to work closely with healthcare professionals to monitor their symptoms and adjust the treatment plan as needed. While UCTD is a chronic condition, many individuals can effectively manage their symptoms and lead a relatively normal life with appropriate medical care and lifestyle adjustments [6, 7].
There are several quality of life assessment scales used in research and clinical practice to measure various aspects of an individual's well-being, functioning, and overall satisfaction with life. These scales are designed to provide a quantitative measure of subjective experiences related to health, mental and emotional well-being, and social functioning. The Short Form Health Survey (SF-36) is a widely used health-related quality of life assessment tool comprising 36 questions. It evaluates eight domains, including physical and mental health aspects such as physical functioning, bodily pain, social functioning, and mental health. Each domain is scored on a scale of 0 to 100, with higher scores indicating better quality of life. The SF-36 is applicable across diverse populations, provides norm-based scores, and has demonstrated reliability and validity. It is frequently used in clinical trials, population health studies, and assessments of various medical conditions to measure health status and the impact of interventions [8, 9].

Analysis of the latest research and publications. According to Mosca M. et al. (2006) the term "undifferentiated connective tissue diseases" (UCTD) is used to describe conditions characterized by symptoms and signs suggestive of a systemic autoimmune disease [10]. However, these conditions do not meet the classification criteria for specific connective tissue diseases like systemic lupus erythematosus (SLE), Sjögren's syndrome (SS), rheumatoid arthritis (RA), among others. A small percentage of individuals with an undifferentiated profile may progress to a fully developed connective tissue disease within the first year of follow-up. Still, approximately 75% maintain a stable undifferentiated clinical course, referred to as stable UCTD. Characteristic symptoms of stable UCTD include arthritis, arthralgias, Raynaud's phenomenon, and leukopenia. Notably, neurological and kidney involvement is typically absent in these patients. About 80% of individuals with stable UCTD exhibit a single autoantibody specificity, with anti-Ro and anti-RNP antibodies being more common. Recognizing stable UCTD as distinct clinical entities has led to proposals to formally define them as such.

Prospective study Michele Iudici et al. (2017) aimed to assess the quality of life (QoL) in patients affected by undifferentiated connective tissue diseases (UCTDs) and identify factors associated with changes in QoL over time [11]. A total of 46 consecutive UCTD patients completed the Short-Form 36 (SF-36) questionnaire at presentation and then annually over a 24-month period. At 6-month intervals, detailed clinical assessments, including history, laboratory evaluations, and physical examinations, were conducted to monitor disease evolution and assess the coexistence of fibromyalgia. At presentation, the SF-36 scores revealed that 74% and 89% of patients scored lower than the average of the general population in the physical and mental domains, respectively. No significant differences were observed between patients with and without Raynaud’s phenomenon. Fibromyalgia emerged as the only independent variable associated with an impaired physical component summary score (p = 0.0009), while no specific patient feature was found to be
associated with the baseline mental component summary score. During the 24-month follow-up, 33.3% and 43.4% of patients showed a significant improvement (change ≥5 from baseline) in the physical and mental component summary scores, respectively. Patients with a history of glucocorticoid intake were more likely to exhibit improvement in the physical domain (p < 0.001), while those with a history of either glucocorticoids (p = 0.043) or immunosuppressors (p = 0.037) intake during follow-up were more likely to show improvement in the mental component. In conclusion, UCTD patients, irrespective of Raynaud’s phenomenon, perceive a lower QoL, with fibromyalgia identified as a major contributor to physical QoL. Improvement in QoL was observed in less than half of patients over the 2-year follow-up.

Study Juan Jiao et al. (2014) aimed to investigate the relationship between age, symptom severity, and quality of life (QOL) in patients diagnosed with fibromyalgia [12]. A total of 978 patients were enrolled between May 1, 2001, and April 30, 2004, and categorized into three age groups: young (≤39 years), middle-aged (40-59 years), and older (≥60 years). Participants completed the Fibromyalgia Impact Questionnaire and the Short Form-36 Health Status Questionnaire (SF-36). Standardized SF-36 physical and mental health summary scores were compared with those of the US female general population of corresponding age groups. Statistical analyses included one-way analysis of variance and post hoc paired t tests for age group comparisons. Pairwise comparisons revealed that young and middle-aged patients exhibited more severe fibromyalgia symptoms across all subscales, except for the anxiety subscale, when compared with older patients (P≤.01). Similarly, these younger patients reported poorer QOL in the SF-36 mental component summary, as well as SF-36 general health perceptions, vitality, social functioning, and mental health index, in comparison to their older counterparts (all P<.001). Comparisons of QOL between female patients and the US female general population of similar age using standardized SF-36 scores indicated that all age groups experienced lower QOL in both physical and mental health, with a more pronounced reduction in physical health, particularly evident in the young patient cohort. In conclusion, this findings highlight age-related variations in symptom severity and QOL among fibromyalgia patients, with younger individuals experiencing more severe symptoms and diminished QOL compared to their older counterparts.

The research by Iryna Romash and Ivan Romash (2021) investigates the dynamics of quality of life in patients with gastroesophageal reflux disease (GERD) comorbid with undifferentiated connective tissue dysplasia (UCTD) under a proposed complex therapy [13]. A total of 120 patients were categorized into study and comparison groups, receiving different treatment protocols. The comprehensive assessment included the Medical Outcomes Study 36-Item Short-Form Health Status (SF-36), Gastrointestinal Symptom Rating Scale (GSRS), and "Personal and Social Performance" (PSP) scale. Results demonstrated significant improvements in various health domains with the addition of "Magne-B6" and "Calcium-D3
Nicomed" to standard therapy. The study concludes that this approach contributes to a substantial enhancement in patients' quality of life.

The aim of this article is to study the problem of connective tissue dysplasia, the relevance of the SF-36 questionnaire and to assess the quality of life of students. Our study involved 50 student volunteers, of whom two groups were formed anamnestically and clinically. The first group (Group 1) included individuals without manifestations of connective tissue dysplasia, and the second group (Group 2) included students with anamnestic and/or clinical manifestations of dysplasia. All rules of anonymity and bioethics were observed during the survey, in accordance with generally accepted conventions. Participants could refuse to participate in the survey without giving a reason and at any time.

Presentation of the main material. Connective tissue dysplasia, also known as connective tissue disorders (CTDs), refers to a group of genetic disorders characterized by abnormalities in the structure, function, or development of the body's connective tissues [14, 15]. Connective tissues play a crucial role in providing strength, elasticity, and support to various structures in the body, including skin, bones, blood vessels, and organs. Several factors can contribute to the development of connective tissue dysplasia, including genetic mutations, environmental influences, and sometimes unknown causes. Here are some key factors associated with the causes of connective tissue dysplasia [16, 17]:

1. Genetic Factors:
   • Inherited Mutations: Many connective tissue disorders have a genetic basis and result from inherited mutations in specific genes. These mutations can be passed down from parents to their children. Examples of such conditions include Marfan syndrome, Ehlers-Danlos syndrome, and osteogenesis imperfecta.
   • Autosomal Dominant Inheritance: Some connective tissue disorders follow an autosomal dominant pattern, meaning that an affected individual has a 50% chance of passing the mutated gene to their offspring.
   • Genetic Heterogeneity: Connective tissue dysplasias are genetically heterogeneous, meaning that mutations in different genes can result in similar clinical manifestations.

2. Spontaneous Mutations:
   • In some cases, individuals may develop connective tissue dysplasia due to spontaneous mutations that occur during early fetal development. These mutations are not inherited but arise de novo.

3. Environmental Factors:
   • Exposure to Toxins: Certain environmental factors, such as exposure to toxins or substances harmful to fetal development, may contribute to the development of connective tissue disorders.
• **Infections:** Some researchers suggest that infections during pregnancy may play a role in the development of connective tissue dysplasia, although the evidence for this is not conclusive.

4. **Unknown Causes:**
   • In some instances, the exact cause of connective tissue dysplasia may remain unknown. This underscores the complexity of these disorders, and researchers continue to investigate the interplay of genetic and environmental factors.

5. **Collagen and Protein Abnormalities:**
   • Collagen is a crucial component of connective tissues, providing strength and structure. Abnormalities in the production or structure of collagen, as seen in Ehlers-Danlos syndrome, can contribute to connective tissue dysplasia.

6. **Metabolic Disorders:**
   • Some connective tissue dysplasias may be associated with metabolic disorders that affect the synthesis or breakdown of components in the extracellular matrix, leading to abnormalities in connective tissues.

7. **Hormonal Influence:**
   • Hormonal factors may play a role in the development or exacerbation of connective tissue disorders. For example, hormonal changes during pregnancy can influence the severity of symptoms in certain disorders.

Some specific connective tissue disorders and their causes:

<table>
<thead>
<tr>
<th>Connective tissue disorders</th>
<th>Causes of occurrence</th>
</tr>
</thead>
</table>
| Marfan Syndrome:                 | **Genetic Mutation:** Marfan syndrome is primarily caused by mutations in the FBN1 gene, which provides instructions for making fibrillin-1, a protein crucial for the formation of elastic fibers in connective tissues.  
**Autosomal Dominant Inheritance:** Most cases of Marfan syndrome are inherited in an autosomal dominant manner, meaning an affected individual has a 50% chance of passing the mutation to each of their children. |
| Ehlers-Danlos Syndromes (EDS):    | **Genetic Diversity:** EDS encompasses a group of disorders with various genetic causes. The most common types result from mutations in genes that encode collagen or proteins involved in collagen processing.  
**Collagen Abnormalities:** The abnormalities can lead to weakened connective tissues, affecting the skin, joints, blood vessels, and internal organs. |
**Osteogenesis Imperfecta (OI):**

*Genetic Mutations:* OI is primarily caused by mutations in genes responsible for producing type I collagen, a major component of bones. Mutations lead to reduced collagen production or altered collagen structure.

*Genetic Heterogeneity:* Multiple genes can be involved, contributing to the diversity in the severity of OI.

**Loeys-Dietz Syndrome**

*Genetic Mutations:* Loeys-Dietz syndrome is caused by mutations in genes involved in the transforming growth factor-beta (TGF-β) signaling pathway, including TGFBR1, TGFBR2, SMAD3, and TGFB2.

*Enhanced TGF-β Signaling:* Mutations result in increased TGF-β signaling, leading to abnormalities in blood vessels, connective tissues, and the cardiovascular system.

**Stickler Syndrome**

*Genetic Mutations:* Stickler syndrome is associated with mutations in several genes, including COL2A1, COL11A1, COL11A2, and COL9A1. These genes encode collagen proteins critical for the development of cartilage and other connective tissues.

*Autosomal Dominant Inheritance:* Stickler syndrome follows an autosomal dominant inheritance pattern in many cases.

**Vascular Ehlers-Danlos Syndrome (vEDS):**

*Genetic Mutation:* vEDS is primarily caused by mutations in the COL3A1 gene, which codes for type III collagen. This type of collagen is essential for the strength and integrity of blood vessels.

*Spontaneous Mutations:* In some cases, mutations occur spontaneously, and individuals do not have a family history of the disorder.

Understanding the specific genetic and molecular mechanisms associated with each connective tissue disease is crucial for accurate diagnosis, prognosis and development of targeted therapies. Genetic testing plays an important role in identifying mutations and guiding medical management for people with these disorders. Ongoing research continues to uncover new genetic factors and pathways associated with connective tissue dysplasia, contributing to advances in medical genetics and personalised medicine [19, 20].

The Short Form Health Survey (SF-36) is one of the most widely used generic health-related quality of life (HRQoL) assessment tools. It was developed by the Medical Outcomes Study (MOS) to measure the overall health status of individuals across various populations and health conditions. The SF-36 is designed to be self-administered and is available in multiple languages [21, 22, 23].

Key features of the SF-36 include:

1. **Comprehensive Assessment:** The SF-36 consists of 36 questions that assess health across eight different domains, covering both physical and mental health aspects. These domains are:
2. **Scoring:** Each domain is scored on a scale of 0 to 100, with higher scores indicating better health-related quality of life. The eight domain scores can also be aggregated to calculate two summary scores: the Physical Component Summary (PCS) and the Mental Component Summary (MCS). These summary scores provide a more comprehensive overview of physical and mental health.

3. **Norm-Based Scores:** SF-36 scores are often normalized to a population mean of 50, with a standard deviation of 10. This allows for easy comparison of individual and group scores to population norms.

4. **Applicability:** The SF-36 is versatile and has been used in a wide range of studies, including clinical trials, population health assessments, and studies across various medical conditions.

5. **Reliability and Validity:** The SF-36 has demonstrated good reliability and validity across diverse populations and health conditions. It has been translated into numerous languages, making it accessible for use in international research.

6. **Sensitivity to Change:** The SF-36 is sensitive to changes in health status over time, making it useful for assessing the effectiveness of interventions or treatments.

Researchers and healthcare professionals use the SF-36 to gain insights into patients' perceptions of their health and well-being. It helps in understanding the impact of health conditions on various aspects of life and guides interventions aimed at improving overall quality of life. The versatility and comprehensiveness of the SF-36 make it a valuable tool in both clinical practice and research settings.

Our cross-sectional study aimed to assess the quality of life in students with and without connective tissue dysplasia. The study utilized the SF-36 questionnaire, a widely recognized instrument for measuring health-related quality of life. Two groups of participants were recruited for the study. Group 1 consisted of students without manifestations of connective tissue dysplasia, while Group 2 included
students with anamnestic and/or clinical evidence of dysplasia. Informed consent was obtained from all participants.

Participants in both groups were provided with a thorough briefing on the nature and purpose of the study. They were assured of the confidentiality of their responses and were given an opportunity to ask questions. The SF-36 questionnaire was distributed to each participant in a printed or electronic format, depending on the preferred method. Participants were instructed to self-report their responses to the SF-36 questionnaire based on their perceptions and experiences over a defined period. Trained personnel were available to provide assistance or clarification if participants encountered difficulties in understanding any item on the questionnaire. Responses to the SF-36 were scored according to the established guidelines, generating scores for each domain and component of health-related quality of life. Data from the SF-36 questionnaire were subjected to statistical analysis using appropriate methods. A significance level of \( p < 0.05 \) was employed to determine statistically significant differences between Group 1 and Group 2.

This study adhered to ethical standards and informed consent was obtained from all participants, ensuring voluntary participation and confidentiality.

Below are the results of our study in Table, which shows a comparison of patients with and without dysplasia.

<table>
<thead>
<tr>
<th>Index according to the SF-36 questionnaire State of health Survey&quot;</th>
<th>Group 1, (M ±m), n=25</th>
<th>Group 2, (M ±m), n=25</th>
</tr>
</thead>
<tbody>
<tr>
<td>PF</td>
<td>62,12±3,47</td>
<td>41,11±3,25*</td>
</tr>
<tr>
<td>RP</td>
<td>69,17±3,48</td>
<td>43,33±3,74*</td>
</tr>
<tr>
<td>BP</td>
<td>78,36±4,03</td>
<td>43,19±4,23*</td>
</tr>
<tr>
<td>GH</td>
<td>76,58±4,37</td>
<td>41,18±4,11*</td>
</tr>
<tr>
<td>VT</td>
<td>73,45±3,12</td>
<td>40,56±3,76*</td>
</tr>
<tr>
<td>SF</td>
<td>75,87±3,59</td>
<td>42,53±3,86*</td>
</tr>
<tr>
<td>RE</td>
<td>73,14±3,45</td>
<td>72,01±3,12</td>
</tr>
<tr>
<td>MH</td>
<td>74,27±3,78</td>
<td>71,26±3,98</td>
</tr>
<tr>
<td>Physical component health, PH (PF+RP+BP+GH)/4</td>
<td>71,55±3,83</td>
<td>42,20±3,83*</td>
</tr>
<tr>
<td>Mental component health, MH (VT+SF+RE+MH)/4</td>
<td>74,18±3,48</td>
<td>54,59±3,68*</td>
</tr>
</tbody>
</table>

Note: * - significance between the values of Group 1 and Group 2 participants, \( p<0.05 \);

Based on the SF-36 data and the information that Group 1 includes individuals without manifestations of connective tissue dysplasia, while Group 2 includes
students with anamnestic and/or clinical manifestations of dysplasia, here's a
detailed analysis:

**Physical Functioning (PF):**

Group 1, without manifestations of connective tissue dysplasia, reports
significantly higher physical functioning compared to Group 2 (41.11 ± 3.25*). This
suggests that individuals without dysplasia perceive better physical health and are
better able to perform daily activities.

**Role Physical (RP):**

Similar to PF, individuals in Group 1 have significantly higher scores in Role
Physical compared to Group 2 (43.33 ± 3.74*). This indicates that individuals
without dysplasia experience fewer limitations in daily roles due to physical health.

**Bodily Pain (BP):**

Group 1, without connective tissue dysplasia, reports significantly less bodily
pain (78.36 ± 4.03) compared to Group 2 (43.19 ± 4.23*). This indicates that
individuals without dysplasia experience less pain and discomfort.

**General Health (GH):**

Participants in Group 1, without connective tissue dysplasia, have
significantly higher scores in General Health (76.58 ± 4.37) compared to Group 2
(41.18 ± 4.11*). This suggests that individuals without dysplasia perceive better
overall health.

**Vitality (VT):**

Individuals without connective tissue dysplasia (Group 1) report significantly
higher vitality (73.45 ± 3.12) compared to those with dysplasia (40.56 ± 3.76*). This
indicates that individuals without dysplasia feel more energetic and vital.

**Social Functioning (SF):**

Group 1, without manifestations of connective tissue dysplasia, reports
significantly better social functioning (75.87 ± 3.59) compared to Group 2 (42.53 ±
3.86*). This suggests that individuals without dysplasia experience better
social well-being.

**Role Emotional (RE):**

There is no significant difference in Role Emotional between the two groups
(73.14 ± 3.45 for Group 1 and 72.01 ± 3.12 for Group 2). Emotional well-being
related to role limitations appears similar in both groups.

**Mental Health (MH):**

While there is a slight difference, it is not statistically significant, indicating
that mental health scores are comparable between the two groups.

**Physical Component Health (PH):**

Individuals without connective tissue dysplasia (Group 1) have a significantly
higher Physical Component Health score (71.55 ± 3.83) compared to those with
dysplasia (42.20 ± 3.83*). This suggests an overall better physical health composite
score in individuals without dysplasia.
Mental Component Health (MH):

Individuals without connective tissue dysplasia (Group 1) have a significantly higher Mental Component Health score (74.18 ± 3.48) compared to those with dysplasia (54.59 ± 3.68*). This indicates better mental health in individuals without dysplasia.

In summary, the analysis of the SF-36 data supports the conclusion that individuals without manifestations of connective tissue dysplasia (Group 1) generally report better health-related quality of life across various dimensions compared to those with dysplasia (Group 2). The significance levels (p < 0.05) denote that these differences are statistically significant.

Conclusions. In conclusion, the analysis of the SF-36 questionnaire data in the study comparing two groups of students, one without manifestations of connective tissue dysplasia (Group 1) and the other with anamnestic and/or clinical evidence of dysplasia (Group 2), reveals significant differences in health-related quality of life between the two cohorts. Individuals without connective tissue dysplasia consistently reported superior scores across various domains, including physical functioning, bodily pain, vitality, general health, social functioning, and both physical and mental component health. These findings underscore the significant impact of connective tissue dysplasia on multiple dimensions of well-being and emphasize the relevance of utilizing comprehensive instruments such as SF-36 for a nuanced understanding of the patient experience. The results not only contribute valuable insights into the specific challenges faced by individuals with connective tissue dysplasia but also provide a foundation for targeted interventions, improved clinical decision-making, and ongoing research efforts aimed at enhancing the overall quality of life for these individuals.

Prospects for further research. Future research on connective tissue dysplasia could explore several avenues to enhance our understanding and improve patient outcomes. Investigating the genetic basis, conducting longitudinal studies to track disease progression, exploring the impact of connective tissue dysplasia on specific populations (e.g., pediatric or geriatric patients), and assessing the effectiveness of targeted interventions are all promising directions. Furthermore, research into the psychosocial aspects, including the influence of mental health and the patient's perspective, could provide valuable insights. Additionally, cross-disciplinary studies linking connective tissue dysplasia with other health conditions, such as cardiovascular or respiratory issues, may contribute to a more comprehensive understanding of its systemic effects.

Conflict of interest
The authors declare no conflict of interest.

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Contribution of the authors
All authors made significant contributions to the original and revised versions of this paper.

References:

Література:


